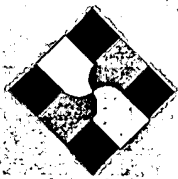




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# Omni - MVA Hardware Overview



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## What is it?

- ✓ 10 gigabit frame switch
- ✓ 6.6 million frames per second
- ✓ Compatible with OmniSwitch & OmniCell
  - User can save existing modules
- ✓ Optimized for 100BaseTx Ethernet
- ✓ OmniCell backplane



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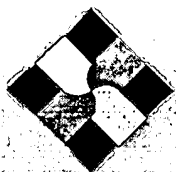
## What's needed?

### ✓ New ASICs

- Frame Fabric
- "Super" CAM
- Mammoth II

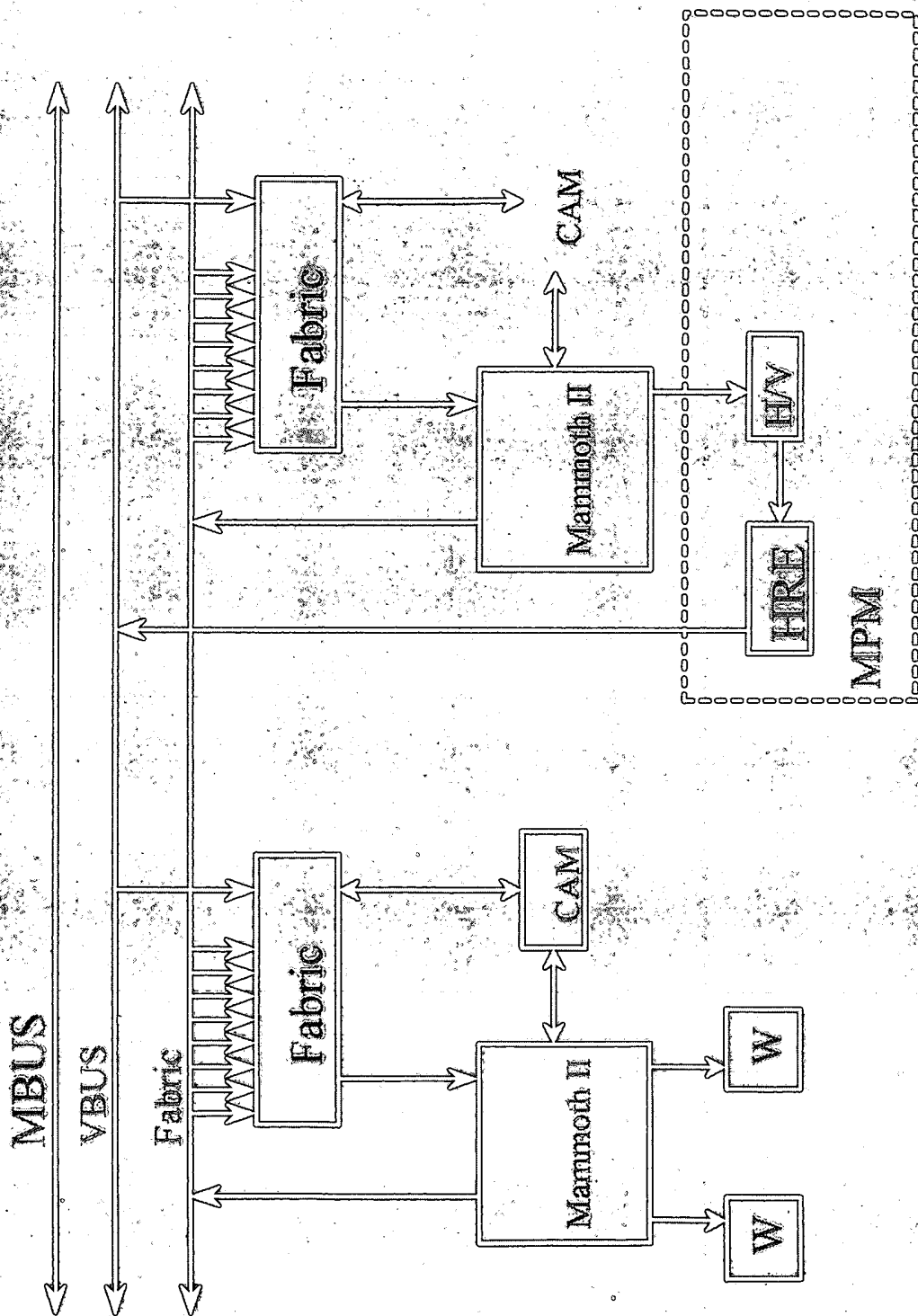
### ✓ New Modules

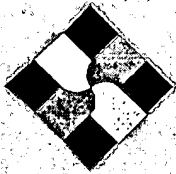
- MPM
- 100 BaseTX
- Gigabit Ethernet
- 24-32 port 10BaseT



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# System Structure





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## Frame Fabric

✓ Eight 1.24 gigabit links

- 16 bits 80 Mhz, GTL

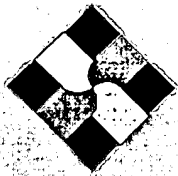
✓ VBUS format

✓ VBUS claim process

✓ "real" VBUS as well

- Interoperability with OmniSwitch cars

✓ Synchronous design



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**"Super" CAM**

✓ Lookup every 5 clocks

✓ Dual-ported

■ Fabric & Mammoth ports

✓ Eliminate command overhead

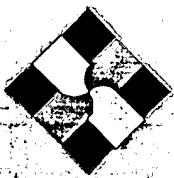


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## Mammoth II

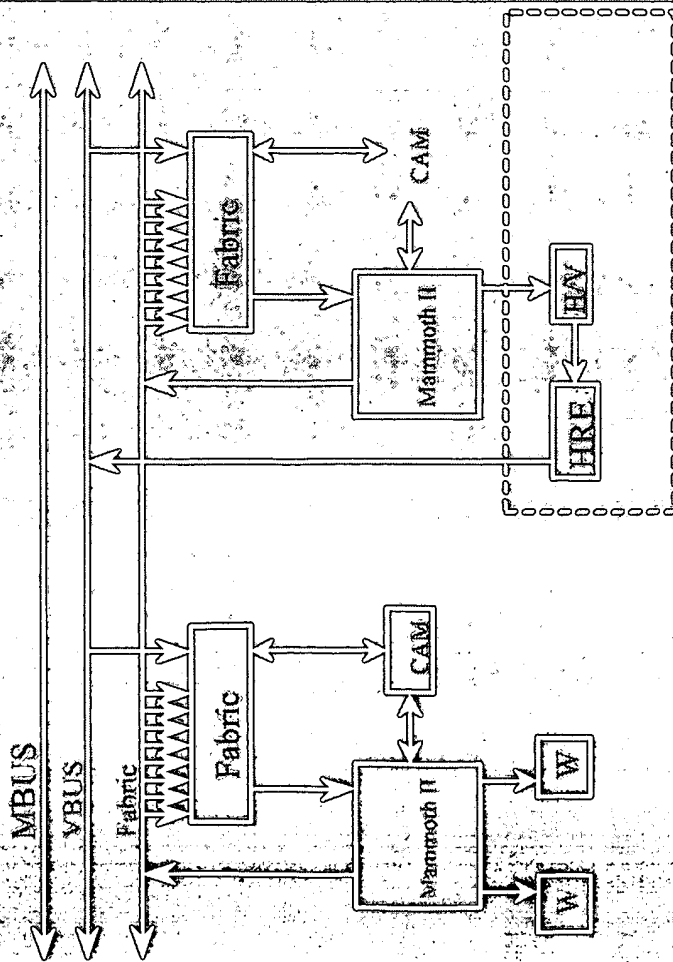
✓ Modified two HBUS to use fabric

✓ Modified for new CAM



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# Fabric Operation



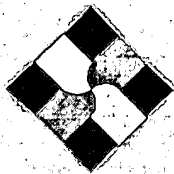
✓ Claiming decision made every 5 clocks

□ 6.6 Million/sec

✓ Each slot gets transmit opportunity every 40 clocks

✓ Fabric has internal buffering for all links





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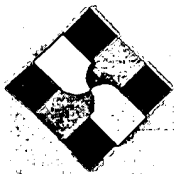
## Backward Compatibility

✓ Enabled by use of OmniCell backplane

✓ New MPM acts as a bridge

- 1.24 gigabits bandwidth

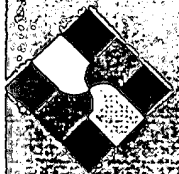
✓ Unused links available for OmniCell



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## New MPM

- ✓ Based on current MPM design
- ✓ Addition of Fabric and Mammoth-II
- ✓ HRE support
  - Conversion of HBUS to VBUS
- ✓ RMON option
  - Full 10 levels



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## New Switching Modules

✓ 8 port 100BaseTx

✓ 32 port 10BaseT

✓ 1 port Gigabit Ethernet

GI Stone



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# Cost Targets

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## Packaging

- ✓ 5 and 9 slot chassis
- ✓ 1.4" slot pitch
- ✓ Dual load sharing power
- ✓ Hot swap fans, power, modules

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